

GUN-ONLY MAGNET USED FOR A MULTI-STAGE DEPRESSED COLLECTOR KLYSTRON

ABSTRACT

A klystron tube for amplifying signals at microwave radio frequencies utilizes an electron source for emitting electrons through a field focused by a high energy magnet in the RF section of the tube. After the electrons have passed through the active area of the tube, the electrons strike the collector which, in this case, is a multistage depressed collector. The ^{multiple stages} multistages of the depressed collector are connected to high energy voltage sources of different potentials. The magnet used for focusing the electron beam is closed (no open pole pieces) at the multistage depressed collector so that no magnetic flux reversals are present to affect the beam dispersal, due to electrostatic space charge forces, onto the multistage depressed collector.